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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SHAFFER, ERIC T	

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/420,912	FORD, JON ALLEN	
	Examiner	Art Unit	
	Eric T. Shaffer	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 March 2004* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24 and 27-59* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24 and 27-59* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This communication is in response to the amendments filed March 4, 2004.

Summary of Instant Office Action

2. Applicant's appeals brief, filed March 4, 2004, concerning claims 1 – 24 and 27 - 59, have been considered and deemed persuasive enough for prosecution to be reopened.

3. None of the pending claims have been cancelled by the applicant and the applicant has added no new claims. Claims 1 – 24 and 27 - 59 are pending and prosecuted in the response set out below.

Allowable Subject Matter

4. Claims 20 and 55 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of 35 U.S.C. 102(e) which forms the basis for all obviousness rejections set forth in this Office action:

> A person shall be entitled to a patent unless (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claims 1 - 10, 13 – 19, 21, 22, 27 – 45, 48 – 54 and 56 - 58 are rejected under 35 U.S.C. 102(e) as being anticipated by Walker et al. (US 5,963,911).

As per claims 1, 9, 13, 28 – 30, 32 – 36, 44, 48, 56 and 58, Walker et al. disclose a method, apparatus, arrangement, computer readable medium and medium of selecting a resource for a work item, and a computer-readable medium containing instructions which, when executed in a computer, cause the computer to perform selection of a resource for a work item ("a computer apparatus for allocating a plurality of jobs to a plurality of resources", column 2, lines 63 – 64), comprising:

determining available resources that possess skills needed by the work item ("a method of allocating a plurality of resources to a plurality of jobs", column 1, lines 57 - 58), wherein skills are taught ("one technician is selected on the basis of criteria such as travel distance, skill preference and estimated time to completion of current job", column 21, lines 27 - 30), and availability is taught ("determining the time at which each resource is forecast to become available", column 1, lines 61 – 62), wherein technicians with skills are resources and jobs are work items;

for each of the determined resources, determining a business value of having the resource service the work item, the business value being a measure of qualification of the resource for servicing the work item based on skills of the resource and skill requirements of the work item ("assign to each job a time-dependent cost function calculated as a function of the time at which the job will be performed", column 1, lines 65 - 67) in order ("to determine for each possible combination of jobs with resources the projected cost dependent on the time at which each resource is forecast to be available and the value of the cost function for the respective job at that time to determine the combination which produces the smallest total projected cost", column 3, lines 10 – 16), wherein the business value is determined by finding the amount of time it would

take the resource, or technician, to complete the work item, or job, and the business value is a measure of the qualification of the resource and the work item based on skills, requirements and availability.

for each of the determined resources, determining a value to the resource of servicing the work item, the value to the resource being a measure of how the resource is spending time ("the ability of the technician to perform the job, taking into account skills, equipment, and security clearances available to each individual, and the amount of non-productive time involved in that technician involved in carrying out that job, e.g. time spent in traveling, or waiting at the location for access if a not before appointment time has been made can also be taken into account. It should be recognized that these costs are estimates and include a weighting for probability", column 7, lines 11 – 20) and ("idle time or time with nothing to do", column 20, line 49) and ("he will incur overtime", column 20, line 55), wherein the amount of time spent traveling, waiting, idle or overtime is a measure of how the resource is spending time since less travel means less cost and more productivity; compared with other resources and goals of the individual resource, ("means may also be provided for provisioning jobs and/or resources, and for selecting the jobs and resources with the highest priority on which to perform the cost evaluation", column 3, lines 29 - 31), wherein the process of prioritizing jobs does in fact compare one or more jobs with each other on the basis of a priority and wherein further the process of prioritizing resources does in fact compare one or more resources with each other on the basis of a priority. The comparison is inherent in the prioritization process.

selecting a determined resource that has a best combined value of the business value and the value to the resource, to serve the work item ("to determine for each possible combination of

jobs with resources the projected cost dependent on the time at which each resource is forecast to be available and the value of the cost function for the respective job at that time to determine the combination which produces the smallest total projected cost", column 3, lines 10 – 16), and ("the method then determines the combination of the technicians and jobs for which the total of the technician/job cost is a minimum", column 7, lines 32 - 34), wherein the best combined value is the lowest cost.

As per claims 2, 14, 37 and 49, Walker et al. disclose a method of determining a business value comprises:

determining the business value weighted by a business value weight corresponding to the work item, ("assigning to each job a time-dependent cost function calculated as a function of the time at which the job will be performed", column 1, lines 65 – 67), wherein the weight is determined as ("certain jobs which are difficult to allocate may be given increased weightings to ensure that they are considered", column 16, lines 37 - 38), wherein if weighting is increased, it is inherent that weighting had existed prior to being increased.

determining a value to the resource weighted by a resource value corresponding to the work item ("the performance of the job and the availability of the resource are calculated as time-dependent functions, with a greater cost weighting being applied to resource-job combinations with a greater likelihood of failure", column 3, lines 48 - 52), wherein the value of a work item is weighted based on difficulty in order to increase its value to the resource in order to encourage the resource to consider the job;

selecting a determined resource that has a best combined value of the weighted business value and the weighted value to the resource ("the method then determines the combination of

the technicians and jobs for which the total of the technician/job cost is a minimum", column 7, lines 32 - 34), wherein the selection of a minimum cost combination is based on the weight score ("a greater cost weighting being applied to resource-job combinations with a greater likelihood of failing to achieve a target time").

As per claims 3, 15, 38 and 50, Walker et al. disclose a method and medium wherein:

determining a business value comprises determining a weighted business value as a product of:

(a) the business value weight corresponding to the work item, ("assign to each job a time-dependent cost function calculated as a function of the time at which the job will be performed", column 1, lines 65 - 67), where the weight corresponds to the work item;

(b) a sum of products of a level of each said needed skill of the resource and a weight of said needed skill of the work item ("the ability of the technician to perform the job, taking into account skills, equipment, and security clearances available to each individual, and the amount of non-productive time involved in that technician involved in carrying out that job, e.g. time spent in traveling, or waiting at the location for access if a not before appointment time has been made can also be taken into account. It should be recognized that these costs are estimates and include a weighting for probability", column 7, lines 11 – 20).

(c) a resource treatment weight corresponding to the work item and (d) a sum of products of each treatment of the resources and a weight of said treatment of the resource, ("factors, such as the ability of the technician to perform the job, taking into account skills, equipment, and security clearances available to each individual, and the amount of non productive time involved in that technician in carrying out that job, e.g. time spent in traveling, or waiting at the location

for access if a not before appointment time has been made can also be taken into account. It should be recognized that these costs are estimates and include a weighting for probability, in other words they are actuarial costs", column 7, lines 32 – 34), wherein the treatment of the resource are the factors of ability of technicians, skills, equipment and security clearances, all of which are weighted as actuarial costs, wherein actuarial costs are old and well known sums of the weighted probabilities of a plurality of factors and outcomes.

As per claims 4, 16, 39 and 51, Walker et al. discloses the sums of products are scaled sums and the treatments are scaled treatments, ("a job (j (N+X)) whose priority is just outside the top `N`, whose inclusion instead of one of those within, but near the bottom, of the top `N` (say j (N-z)) would provide a lower-cost solution. In order to overcome this problem more jobs are put into the matrix than there are technicians. `Dummy` technicians are included in order to make the matrix square again. In a practical embodiment, there may be several times as many jobs as technicians, to ensure the lowest-cost solution is always found", column 12, lines 22 – 30), wherein the scaling factor is the ability to adapt the size of the matrix upward so as to accommodate the circumstance where the number of jobs is greater than the number of resource technicians. The Walker system is scalable as the number of jobs and resources are increased.

As per claims 5, 17, 40 and 52, Walker et al. disclose a method wherein selecting comprises selecting the determined resource that has a highest weighted business value (see column 2, lines 8-12, a combination of weighted business values is taught. Walker et al. uses the lowest sum combination rather than the largest sum to find the best combination), wherein the lowest cost produces the highest business value.

As per claims 6, 41 and 53, Walker et al. disclose a method wherein the resource treatments of a resource comprise a time since the resource became available ("determining the time at which each resource is forecast to become available", column 1, lines 61 – 62); and a time that the resource has not spent serving work items ("incur idle time or time with nothing to do", column 20, line 49).

As per claims 7, 42 and 54, Walker et al. disclose a method and medium wherein the treatments of the resource further comprise a measure of an effect that serving of the work item would have on a goal of the resource ("for each possible allocation for a technician to a job, the cost of allocating a given job to a given technician in then estimated", column 6, lines 64 - 66).

As per claims 8 and 43, Walker et al. disclose a method and medium wherein the measure of the effect comprises a difference between (a) a distance of an actual allocation of work time of the resource among skills from a goal allocation of the work time of the resource among the skills and (b) a distance of an estimated allocation of the work time a of the resource among the skills if the resource serves the work item from the goal allocation (see figure 16, and column 7, lines 35-59, the time that the resource completes the work item is predicted and displayed on the matrix; when the resource states that the work item is completed on time, early or late, the matrix changes and the values are recalculated to create low cost matches of the highest priority work items).

As per claims 10 and 45, Walker et al. disclose a method and medium wherein the resource treatments of a resource comprise a time since the resource became available ("time window of job completion", column 6, lines 49), a time that the resource has spent not serving work items ("time spent traveling, or waiting at the location", column 7, lines 15 - 16), and a

measure of an effect that serving the work item would have on a goal of the resource (column 14, lines 20 - 24, the resource that has completed a work item and has no new tasks assigned a new task by the method shown in figure 5, the new allocation would be based on the values calculated using the particular resource and the priority of the available work items to determine the best combination).

As per claims 18, 19, 22 and 57, Walker et al. disclose a method and medium wherein the work item treatments of a work item comprise a time that the work item has been waiting for service ("degree of lateness", column 6, line 62), the estimated time that the work item will have to wait for service ("forecast time to availability" column 1, lines 42 – 43), and the time work item has exceeded estimated wait time, ("his takes into account the penalty for failing to meet an agreed time. The penalty may be a real monetary cost if compensation is payable to a customer for failures to meet a time, or a `virtual` cost--e.g. damage to a company's reputation. The penalty is a time-dependant property. In the simplest case the function is zero if the agreed time is met and a fixed value otherwise. In more complex cases, for example where compensation is payable according to the degree of lateness, it may be some more complex time-dependant function", column 6, lines 54 - 63), wherein if lateness is to be calculated, then the time work item has exceeded estimated wait time is known and inherent.

As per claims 21 and 31, Walker et al. disclose a method of selecting a work item for a resource, comprising:

determining available work items that need skills possessed by the resource ("one technician is selected on the basis of criteria such as travel distance, skill preference and estimated time to completion of current job", column 21, lines 27 - 30), and ("a method of

allocating a plurality of resources to a plurality of jobs", column 1, lines 57 - 58) and availability ("determining the time at which each resource is forecast to become available", column 1, lines 61 – 62), wherein technicians with skills are resources and jobs are work items;

for each of the determined work items, determining a business value comprising a sum across all skills of a product of a skill level of the resource in the skill and a skill weight of the work item for the skill; ("assign to each job a time-dependent cost function calculated as a function of the time at which the job will be performed", column 1, lines 65-67) and ("to determine for each possible combination of jobs with resources the projected cost dependent on the time at which each resource is forecast to be available and the value of the cost function for the respective job at that time to determine the combination which produces the smallest total projected cost", column 3, lines 10 – 16), wherein the business value is determined by finding the amount of time it would take the resource, or technician, to complete the work item, or job, and the business value is a measure of the qualification of the resource and the work item based on skills, requirements and availability.

for each of the determined work items, determining a business value comprising a sum across all skills of a product of a skill level of the resource in the skill and a skill weight of the work item for the skill, ("the ability of the technician to perform the job, taking into account skills, equipment, and security clearances available to each individual, and the amount of non-productive time involved in that technician involved in carrying out that job, e.g. time spent in traveling, or waiting at the location for access if a not before appointment time has been made can also be taken into account. It should be recognized that these costs are estimates and include a weighting for probability", column 7, lines 11 – 20), wherein the amount of time spent

traveling or waiting is a measure of how the resource is spending time; compared with other resources and goals of the individual resource, ("means may also be provided for provisioning jobs and/or resources, and for selecting the jobs and resources with the highest priority on which to perform the cost evaluation", column 3, lines 29 - 31), wherein the process of prioritizing jobs does in fact compare one or more jobs with each other on the basis of a priority and wherein further the process of prioritizing resources does in fact compare one or more resources with each other on the basis of a priority. The comparison is inherent in the prioritization process.

selecting a determined work item that has a best combined score of its business value and work item treatment value, to be served by the resource, ("to determine for each possible combination of jobs with resources the projected cost dependent on the time at which each resource is forecast to be available and the value of the cost function for the respective job at that time to determine the combination which produces the smallest total projected cost", column 3, lines 10 – 16), and ("the method then determines the combination of the technicians and jobs for which the total of the technician/job cost is a minimum", column 7, lines 32 - 34), wherein the best combined value is the lowest cost.

As per claim 27, Walker et al. disclose an apparatus comprising a processor that executes instructions to effect the method of one of the claims 1-24 ("computer apparatus comprising a central processing unit", column 2, lines 64 – 65).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 11, 12, 23, 24, 46, 47 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker et al. (US 5,963,911) in view of Bushey et al (US 6,389,400).

As per claims 11, 23 and 46, Walker et al. discloses a method and medium wherein:

determining a business value comprises determining a scaled business value comprising the business value scaled by a first scaling factor that is common to all of the determined resources (see figure 12, and column 7, lines 11-24, the weights for probabilities are applied to all the resources having particular skills or other time involved in carrying out a work item);

Walker et al. does disclose scaling values using probabilities (see column 6, lines 64-67 through column 7, lines 1-24). However, Walker et al. does not explicitly disclose determining a resource treatment value that comprises for each resource treatment, determining a scaled value of the resource comprising the value of the resource for that resource treatment scaled by a scaling factor that is common for that resource treatment to all of the determined resources, and determining a scaled resource treatment value comprising a sum, scaled by a second scaling factor that is common to all of the determined resources, across all resource treatments of a product of the scaled value of the resource for the resource treatment and a weight of the work item for the resource treatment.

Bushey et al. teaches allowing employees to preference attributes using weights to create the agent model (see column 4, lines 1-3). Bushey et al.'s weighted models could be scaled. Both are analogous art because they both teach routing and scheduling of customer requests and allocation of service performing resources. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure by Walker et al. to include creating a scaled resource treatment value as it allows a resource, agent, or technician, to have a value in creating an optimal pairing of work items' or customers' preferences and a resource or employee's preferences. One would be motivated to scale the resource value as scaling a value allows it increases the accuracy of the comparison.

Walker et al. also does not disclose selecting a determined resource that has a best sum of its scaled business value and scaled resource treatment value to serve the work item. However, Bushey et al. discloses creating a resource treatment value by allowing agents to weight attributes for the agent model and matching the agent model to the customer model and create a highest match score (see column 4, lines 1-33). It would have been obvious for one of ordinary skill in the art at the time of the invention to modify the disclosure by Walker et al. to include creating a best sum of its scaled business value and scaled resource treatment value, as taught by Bushey et al., as it optimizes both the customer's satisfaction and the agent or technician's preferences.

As per claims 12, 24, 47 and 59, Walker et al. disclose a method and medium wherein each scaling factor comprises a fraction having in its denominator a maximum value of the value to which said scaling factor applies of any of the resources ("a job (j (N+X)) whose priority is just outside the top `N`, whose inclusion instead of one of those within, but near the bottom, of

the top `N` (say j (N-z)) would provide a lower-cost solution. In order to overcome this problem more jobs are put into the matrix than there are technicians. `Dummy` technicians are included in order to make the matrix square again. In a practical embodiment, there may be several times as many jobs as technicians, to ensure the lowest-cost solution is always found", column 12, lines 22 - 30, wherein the scaling factor is the ability to adapt the size of the matrix upward so as to accommodate the circumstance where the number of jobs is greater than the number of resource technicians.

Response to Amendments

9. Applicant's arguments filed March 4, 2004 have been fully considered, but the same are not persuasive.

A). As per independent claims 1, 9, 28, 29, 32, 33, 36, and 44, applicant argues that Walker and Bushey do not teach weighting as incorporating the goals of a resource, or in comparison with other resources and goals. Upon further examination by an appeals conference of examiners, it has been concluded that Walker alone does teach all of the elements in these independent claims. Walker does teach determining available resources that possess needed skills and qualifications (column 4, lines 8 - 24), does teach a time based value of the resources (column 7, lines 14 - 19), the incorporation of a weighting (column 7, lines 19 -21) and a comparison of resources (column 2, lines 5 - 12) and (column 7, lines 32 - 34), where a resource in comparison with other resources is inherent in the selection of a combination with a minimum cost. Walker does teach how one work item is treated compared with other work items ("means may also be provided for

provisioning jobs and/or resources, and for selecting the jobs and resources with the highest priority on which to perform the cost evaluation", column 3, lines 29 - 31), wherein the process of prioritizing jobs does in fact compare one or more jobs with each other on the basis of a priority and wherein further the process of prioritizing resources does in fact compare one or more resources with each other on the basis of a priority. The comparison is inherent in the prioritization process. Furthermore, by teaching the comparison of how non-productive time such as travel, waiting and idle time is used, Walker shows that it would be optimal to compare technicians based in part on assigning the technician with the least amount of non-productive time.

B). As per claims 13, 21, 30, 31, 34, 35, 48 and 56, applicant argues that Walker and Bushey do not teach how one work item is treated compared with other work items. Upon further examination by an appeals conference of examiners, it has been concluded that Walker alone does teach all of the elements in these independent claims. Walker does teach determining available resources that possess needed skills and qualifications (column 4, lines 8 - 24), does teach a time based value of the resources (column 7, lines 14 - 19), the incorporation of a weighting (column 7, lines 19 -21) and a comparison of resources (column 2, lines 5 - 12) and (column 7, lines 32 - 34), where a resource in comparison with other resources is inherent in the selection of a combination with a minimum cost. Furthermore, Walker does teach how one work item is treated compared with other work items ("means may also be provided for provisioning jobs and/or resources, and for selecting the jobs and resources with the highest priority on which to perform the cost evaluation", column 3, lines 29 - 31), wherein the process of prioritizing jobs does in fact compare one or more jobs with each other on the basis of a priority and wherein

further the process of prioritizing resources does in fact compare one or more resources with each other on the basis of a priority. The comparison is inherent in the prioritization process.

C). As per claims 2, 14 and 49, applicant argues that Walker does not teach any weighting at all and that it cannot be seen how Walker can be interpreted to suggest weighting. However, upon further examination by an appeals conference of examiners, it has been concluded that Walker alone does teach all of the elements in these dependent claims. Walker is very specific in using the word "weighting" ("include a weighting for probability", column 7, line 19"), ("time-dependent functions with a greater cost weighting being applied", column 3, line 50), and ("jobs which are difficult to allocate may be given increased weightings", column 16, lines 36 - 37). Clearly Walker does teach weighting of difficult jobs and the weighting of resources. It is clearly not true that Walker does not teach any weighting at all.

D). As per claims 3, 6, 7, 8, 15, 18, 19, 38, 41, 42, 43, 50 and 53, applicant argues that Walker does not disclose, teach or suggest skill levels or skill weights. However, Walker does teach a "skill type distribution", column 15, line 9) and a ("job at each technician's present location which is compatible with his skills", column 15, lines 15 - 16), wherein there does exist within the invention the ability to measure skills and skill level, even if the skill level is merely that a technician either does or does not have a specific skill. Multiple skills are also taught by Walker as ("the selected job having skill requirements compatible with the technicians", column 16, lines 6 -7) and a ("skill type distribution to seed-jobs to support multi-skilling", column 15, lines 8 - 9), where a collection of several skills implies that they are weighted in some manner.

E). As per claims 4, 16, 39 and 51, applicant argues that Walker and Bushy do not teach a scaling factor related to skills levels and skill weights. However, the Walker invention does use scaling to increase the size of the solution matrix in order to accommodate any number of jobs and will create dummy technician resources if the number of jobs is less than the number of technician resources. Increasing the number of variable as the number of jobs and resources increases demonstrates that the Walker device is scalable based on the increasing size of the number of factors to be considered in a problem.

F). As per claims 5, 17, 40 and 52, applicant argues that Walker does not teach two separate weighted values are computed and then summed to select the doublet with the highest number. However, Walker does teach the same selection process of using a weighted total of the most qualified technician and the best use of time by the technician or resource using a calculation that selects the combination with the lowest number. So while Walker uses a lowest cost score rather than a highest score to select an optimal combination, both inventions perform the same functionality.

G). As per claims 20 and 55, applicant's arguments with respect to these claims are moot and the examiner agrees. The applicant is referred to paragraph 4 of this office action.

H). As per claims 21, 31, 35 and 56, applicant argues that Walker fails to disclose skill levels, skill weights, the products or the sums thereof. However, Walker does disclose evaluating whether resources possess a skill or do not possess a skill, thereby teaching a Boolean skill level. A technician's multiple skills each have a level associated with them and are used in a matrix

demonstrated in figure 16 and in columns 9 – 12, in order to determine which jobs a specific technician should be assigned.

I). As per claims 22 and 57, applicant argues that Walker and Bushey do not teach the time an item has been waiting to be serviced, estimated time item will wait and time by which wait has exceeded estimated wait time. However, Walker does teach the time an item has been waiting to be serviced ("time to jeopardy i.e. the time by which the job is to be performed", column 1, lines44 - 45), estimated time item will wait ("the time at which each resource is forecast to be available", column 2, line 3) and ("time to availability", column 1, line 42) and time by which wait has exceeded estimated wait time ("must be done today incurring overtime if necessary", column 16, lines 61 - 62), wherein exceeded wait time is inherent in overtime.

J). As per claims 11, 12, 23, 24, 27, 46, 47, 58 and 59, applicant argues that Walker and Bushey do not teach a business value scaling factor that is scalable to all work items. However, Walker does teach the ability to use scaling to compensate for the amount by which the number of available jobs exceed the number of available resources, ("if more jobs are available than resources, dummy resources may be included in the analysis. High values are allotted to the cost functions of jobs allocated to such resources", column 2, lines 34 - 37).

Conclusion

10. No claims were allowed and all claims were rejected.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Eric Shaffer whose telephone number is (703) 305-5283. The Examiner can normally be reached on Monday-Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (703) 305-9643.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington D.C. 20231

Or faxed to:

(703) 746-7238 [After Final communications, labeled "Box AF"]

(703) 746-7239 [Official communications]

(703) 706-9124 [Informal/Draft communications, labeled "PROPOSED" or "DRAFT"']

Hand delivered responses should be brought to Crystal Park 5, 7th floor receptionist.

ETS
May 14, 2004

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